

# Kansas State Fire Marshal – Fire Prevention Division

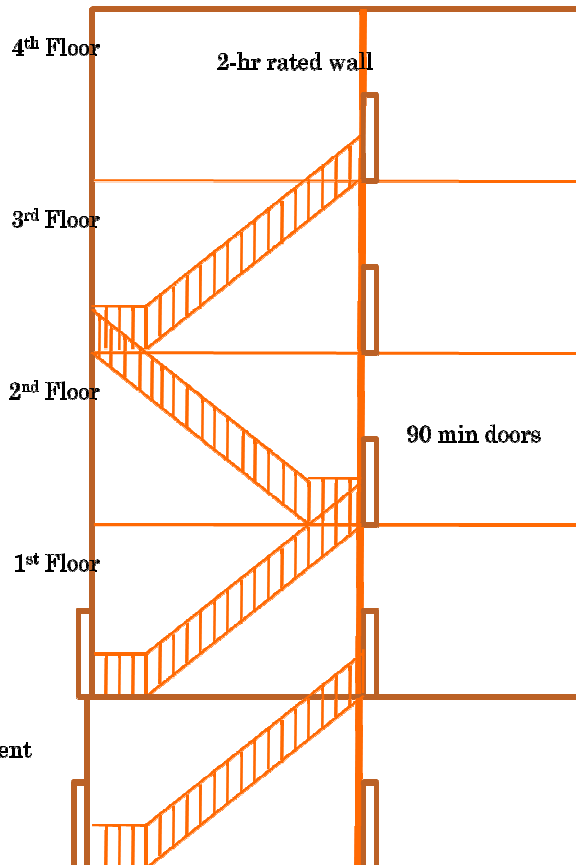
References (s): 06-IFC/1020, 00-101/8.2.5; 19.3.1

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## FIRE FACT 070 – STAIRS AND VERTICAL OPENINGS

Stair enclosures are critical components of fire and life safety. Open stairways act as chimneys during fire, quickly spreading smoke, heat and fire upward. An enclosed stairway prevents this.



Non-Healthcare Construction:

Required interior exit stairs connecting:

4 or more floors	2-hour protection
3 or less	1-hour protection

The number of floors shall include any basements.

If stairs connect two floors AND the building is equipped throughout with an automatic sprinkler system, there is no additional fire-rated construction requirements.

Exception:

- 1) Complete or partial smoke detection connected to the fire alarm system that has been accepted by KSFM and documented in writing
- 2) Complete automatic sprinkler system that has been accepted by KSFM and documented in writing

**Openings:** Doors shall be labeled, self- or automatic closing, and shall be provided with an active latch that will secure the door when it is closed.

**Penetrations:** Prohibited, except for exit doors and any equipment or ductwork necessary for independent pressurization, sprinklering, etc.

**Directional signs:** Signs must be provided to direct occupants to the level of exit discharge. Signs shall not direct occupants to re-enter the building.

**Floor numbers:** For stairs connecting more than 3 stories, a sign shall be provided on each floor landing designating the floor level, the terminus of the top and bottom of stairs, the identification of the stair, and the availability of roof access for the fire department

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## **Construction requirements specific to healthcare facilities**

Healthcare facilities generally have more stringent requirements due to the large number of non-ambulatory occupants. Therefore a greater level of fire protection is required especially in regards to smoke compartmentation and fire separations.

Every floor in a healthcare facility shall be constructed as a smoke barrier and shall be enclosed with fire barrier walls. All openings shall be protected as appropriate for the fire rating and shall be self-closing and must latch. Please note that there are several exceptions for unenclosed openings such as atriums and other communicating spaces.

### **New Construction**

3 or less stories	1-hr fire protection
4 or more stories	2-hr fire protection

### **Existing**

All levels	½-hr fire protection
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## **Vertical opening self-inspection**

- Check doors for self-closing device
- Open the door and let go, allowing the self-closing device to function.
- Does the self-closing device fully close the door?
- Does the door stay closed when you press on the face of the door?
- Walk the entire stair enclosure, top to bottom, and inspect for openings and penetrations
- Openings and penetrations must be sealed using appropriately rated material
- Is there any storage in the stair enclosure or under the stairs?